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ABSTRACT

Factors which influence child development are listed and briefly discussed. These factors are (1) mother's childhood, (2) mother's age, (3) care during pregnancy and delivery, (4) early neonatal factors, (5) birth interval, (6) effect of repeated infection and malnutrition on brain growth and intellectual development, and (7) home environment. The cross-generational effect of malnutrition/deprivation is stresssed. Concluding remarks focus on areas of intervention, such as family spacing and postnatal care, and areas of governmental responsibility that are likely to improve the conditions of children in Zimbabwe. (Author/RH)

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BERNARD VAN LEER FOUNDATION

Second Eastern Hemisphere Seminar

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INTEGRATED AND EARLY CHILDHOOD EDUCATION: PREPARATION FOR SOCIAL DEVELOPMENT

Theme A : Relevant Provision for Early Childhood

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1. Normally, one thinks of the beginning of life as the moment of fertilization of an ovum by a spermatozoon, from which point on, the developing foetus is subjected to various environmental factors which may enhance or suppress the expression of its genetic potential, inherent at the time of conception.

2. We now know that this simple view of the child's biological life span is too narrow. The time of conception, and the process of birth, are merely convenient points of reference in a continuum which stretches far into the past. For instance, a woman who was herself malnourished as a child is likely to be shorter, with a smaller pelvis, than her non-malnourished sister. This may lead to difficult child-birth, with disastrous effects on her babies. Women malnourished in childhood tend to produce smaller babies, with certain attendant dangers, and this effect may take more than a single generation to work itself out - certainly animal experiments support this hypothesis. A woman's educational and social position may have a profound effect, not only on how she cares for her baby after it is born, but on how she looks after herself when pregnant, and where she chooses to deliver her baby. Thus I think it would be accepted that biologically and psychologically, preparation for motherhood (and parenthood) begins long before conception: it begins in the mother's own childhood and continues through her school and early adult years.

3. When the time comes for having children, this should be a positive act: parents should decide "we are now in a position to offer a child, or children, a home environment which will supply the various bodily and spiritual needs to enable them to grow and develop to their maximum potential". Without this positive commitment, children are produced almost by default - and the struggle begins, to make the best of a poor situation. Some parents succeed, but many fail and their children die, or become permanently stunted (physically and intellectually) in the fight against overwhelming social odds which they cannot understand or control.

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4. Using the model of the child's biological (and intellectual) life extending backwards to the mother's childhood and forwards into the future, the following environmental factors appear to me to be important:

(a) Mother's childhood: The mother's nutritional state in infancy and childhood may affect both her physical size, strength, and intellectual capacity as an adult. These factors have a direct relationship to her biological capacity to bear children and look after them once they are born. Obviously, cultural and social factors are also influential in developing her attitude towards her children, and her abilities as a mother.

(b) Mother's age: Perinatal mortality is highest in very young mothers having their first baby and in mothers over the age of 35 (particularly if they have had four or more previous children). Both these situations are common in developing countries. After birth, the very young mother is less likely to cope with her newborn than the more mature woman. However, the older woman is also disadvantaged because she may be mentally and physically exhausted after repeated child-bearing.

(c) Care during pregnacy and delivery: Unbooked pregnancies, and unsupervised deliveries, often end in disaster. Fewer than 50 per cent of deliveries are in the hands of trained personnel in this country. This is partly due to lack of facilities and partly to cultural influences, which encourage a young woman bearing her first child to deliver in her parents' village.

(d) Early neonatal factors: Fortunately, breast-feeding is almost universally practiced, certainly in rural tropical Africa. However, later nutritional practices are often sub-optional. Again, when and what to feed a baby are culturally defined, and if childhood nutrition is to be improved, improvement in both quality and quantity of the foods fed to infants must be encouraged. This would take place largely through adult education.

(e) Birth interval: It has been demonstrated that a short birth interval (less than 15-18 months) is associated with a high infant mortality. Several factors operate, including shortening of the time the baby is breast fed, and maternal exhaustion from the never-ending cycle of pregnancy, lactation and further pregnancy. Lengthening the birth intervals to about three years improves childhood survival, and also improves maternal health by allowing a period of recovery between pregnancies, when the mother is not breast-feeding. High early infant losses are a very potent drive to reproduction, and a perpetuation of the vicious circle.

(f) Effect of repeated infection/malnutrition on brain growth, intellectual development: This is a "grey area", with much controversy. However, I believe the evidence is sufficient to say that extreme degrees of malnutrition during the first eighteen months of life, when the brain is still growing, will result in measurable effects on both brain size and intellect. Less severe degrees of malnutrition will produce less marked effects, possibly too subtle to be

measured by present techniques. However, if malnutrition is rife in a community, I think it fair to say that there is a loss of potential (both physical, in the sense of growth and ultimate adult size, and mental, in terms of I.Q.) in that community. Although *individual* losses may be small, the total for the whole community may be very large.

(g) Home environment: This is crucial in developing attitudes towards learning. Children from homes where education is not valued will be at a disadvantage. Can this disadvantage, and that produced by early malnutrition, be compensated for during later life? Some compensation is possible, but in the severely malnourished and deprived child, compensation is never complete.

5. It is almost certain that malnutrition/deprivation in a generation leads to its appearance in the next. Mothers who batter their babies have been shown to have had, themselves, a deprived childhood. Similarly, the effects of malnutrition on size and intellect are likely to express themselves in at least the next generation. This vicious circle is of prime importance in all developing countries.

6. Areas of intervention are many, and concentrating on improvement in one single area is unlikely to have much effect. Areas of intervention include:

(a) Nutrition

Nutrition should be part of the biology syllabus in all primary and secondary schools, and taught in adult education classes. Areas covered should include foods necessary for adequate growth, and for pregnancy and lactation.

(b) Family Spacing (see e above)

Contraception advice and methods would allow a longer birth interval, with improved infant survival. Spacing would ultimately lead to smaller families, but as stressing this might upset tribal or political beliefs, limitation of family size should not be the primary aim of family planning programmes. Quality not quantity should be stressed.

(c) Antenatal care

The advantages of delivering under supervision, be this in hospital, clinic, or at home with a traditional midwife (who has had additional training in western medicine) should be widely broadcast, through mothers' clubs, schools, and the media. The importance of early infant bonding and the father's role in the first few days/weeks of life should similarly be stressed. Special provision for mothers of premature babies, and for breast-feeding of babies, should be made available in hospitals and clinics.

(d) Postnatal Care

Contact with the health services often occurs at the time of delivery. This contact should be built on, by arranging postnatal visits for weighing (Road-to-Health card) and subsequent immunizations. At clinic visits nutrition, sanitation and the prevention of accidents, can be discussed. This will automatically lead to:

(e) The Importance of the First Five Years

Not only in nutritional terms, but in terms of development and learning, these years are critical. Stimulation of language and manual dexterity, and enriching the home environment, need to be discussed with mothers, through clinics, mothers' clubs, and all other possible ways. Methods of bringing the father into the picture need to be explored.

7. Much of what I have said applies to the individual: what he or she can do to improve the child's health and learning ability. However, Government has also a great responsibility, as an enabling force. Under this heading I would include:

(a) Provision of facilities, e.g. improved housing, water and sewage disposal, and the provision of hospitals and clinics.

(b) Training and orientation of the personnel necessary to bring about community awareness, and create the demand for better services.

(c) Legislation to improve the status of women in society, through whom many of the changes I have discussed will have to be brought about.